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Goertz et al.

(54) **LIGHT-BASED TOUCH SCREEN**

(75) Inventors: **Magnus Goertz**, Lidingo (SE); **Thomas Eriksson**, Stocksund (SE); **Joseph Shain**, Rehovot (IL)

Correspondence Address:
Soquel Group, LLC
P.O. Box 691
Soquel, CA 95073 (US)

(73) Assignee: **NEONODE INC.**, San Ramon, CA (US)

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(57) **ABSTRACT**

A light-based touch screen, including a housing for a display screen, a plurality of infra-red light emitting diodes (LEDs), fastened on the housing, for generating light beams, at least one LED selector, fastened on the housing and connected with the plurality of LEDs, for controllably selecting and deselecting one or more of the plurality of LEDs, a plurality of photodiode (PD) receivers, fastened on the housing, for measuring light intensity, at least one PD selector, fastened on the housing and connected with the plurality of PD receivers, for controllably selecting and deselecting one or more of the plurality of PD receivers, an optical assembly, fastened on the housing, for projecting light beams emitted by the plurality of LEDs in substantially parallel planes over the housing, and a controller, fastened on the housing and coupled with the plurality of PD receivers, (i) for controlling the at least one LED selector, (ii) for controlling the at least one PD selector, and (iii) for determining therefrom position and velocity of an object crossing at least one of the substantially parallel planes, based on output currents of the plurality of PD receivers.